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| Use the Van de Walle text and the TN Math Standards to complete this assignment. If other resources are used in addition, please cite with the URL or bibliographic information. |

*Chapter 11 – Developing Whole-Number Place Value Concepts*

**Pre-Place-Value Understanding**

1. Initially quantity is based on a count-by-one approach, the number 18 means 18 ones. Three levels of understanding include:
   1. Children understand ten as ten \_\_\_\_\_\_\_\_
   2. Children see ten as a \_\_\_\_\_\_\_\_\_\_\_
   3. Children easily work with units of \_\_\_\_\_\_\_\_\_

**Developing Whole-Number Place-Value Concepts**

1. FILL IN THE MISSING INFO IN THE CHART BELOW

Three Ways you can count a set of objects – create a visual representation for the number 33 (remove the blanks and type in the response). Try to creatively make the 2 visual representations not included in the chart.

|  |  |  |  |
| --- | --- | --- | --- |
| Grouping Stage | Visual  Representation | Counting Approach | Students Can: |
|  | |||||||||||||||||||||||||||||||||  (33 single units) |  | * Name a -- or “tell how many by counting -- * Are not able to think of – as a – unit * Use counting by \_\_ as the only way they are – that different sets have the same amount |
|  |  |  | * Count a group of 10 as a – item (--) * Coordinate the base-ten approach with the count by – as a means of telling --- * Use the 2nd version of the count and – state the number of items |
|  |  |  | * Group the pieces – into versions that include – and – but all – have not been carried out. * Use these – groupings to relate to – by being able to trade or – numbers in a variety of ways. |

1. If students are at the count by ones stage can we tell them that the other 2 ways to count objects will give them the same number and hope that will make sense to them? Why or why not?

**Base-Ten Models for Place Value**

1. Complete the following chart:

|  |  |  |  |
| --- | --- | --- | --- |
| Model Type | Examples –  list them | 1. Things to keep in mind when using this model type. 2. What makes it different from other types | Include a screenshot of at least one of this type of model. |
| Groupable |  |  |  |
| Pregrouped |  |  |  |
| Nonproportional |  |  |  |

**Developing Base-Ten Concepts**

1. Briefly describe each of these methods for developing base-ten concepts and one example of how manipulatives are used effectively with the method.
   1. Grouping Activities –
   2. Grouping Tens to Make 100
   3. Equivalent Representations-

**Oral and Written Names for Numbers**

1. What is meant by, “Ways to say and write numbers are conventions, not concepts.”
2. How would you say:

|  |  |  |
| --- | --- | --- |
|  | Standard Language | Base Ten Language |
| 72 |  |  |
| 48 |  |  |

1. Should “zero” be referred to as a “placeholder”? Explain.
2. Read the formative assessment notes on page 237, then watch the video embedded on your digital version. Describe the student’s place value understanding.

**Patterns and Relationships with Multidigit Numbers**

1. What is the learning value of using a Hundred’s Chart to teach mathematics? Describe several ways they can be used.
2. What models are helpful for developing relationships with Benchmark Numbers? What are benchmark numbers important for developing place-value concepts?